

City of
Fitchburg



Department of
Public Works

**301 Broad Street
Fitchburg, MA 01420
Phone: 978-829-1900**

DPW Weekly Update July 28 - August 4, 2019

Dear Mayor, Councilors, and Colleagues:

This past week was another busy summer week for DPW employees across all our divisions. Highlights from this past week include:

- The Streets Division crews filled another 680 potholes, repainted school zones and crosswalks, and reconstructed two catch basins.
- The Parks and Recreation staff were busy making sure the splash parks and swimming pool were open to help everyone stay cool, while also taking 88 children on a field trip to the indoor bounce house here in Fitchburg.
- The Cemeteries staff helped to move the Forest Hill expansion project forward.
- The Waste Water Division is making steady progress in the upgrading the collections system and facilities at the East Plant to deal with stormwater separation.
- The Water Supply Division hosted MassDEP for their biennial Sanitary Survey inspection.
- The Engineering Division continued design, bidding, and inspection efforts related to various roadway construction projects.
- The Administration staff have been working diligently to close out the fiscal year and make the necessary changes to improve the management of DPW business.

As always please feel to contact us with any comments, questions, concerns or suggestions regarding the enclosed report.

Sincerely,

Nicolas H. Bosonetto, PE
Commissioner of Public Works/City Engineer

ROADWAYS

Traffic

Line striping efforts shifted towards repainting school zone markings and crosswalks around the various schools in preparation for the upcoming school year. Painted crosswalks and stop lines on Franklin Road.

Pavement markings and signs were added in front of the FPD station to create two “safe exchange zone” parking spaces where goods purchased through online can be exchanged.

Crack Sealing

Blossom Street and John Fitch Hwy received preventative maintenance this week in the form of crack cleaning and sealing. By filling pavement cracks, water and debris is prevented from entering into the pavement and subbase, thereby extending the pavement life for about five to seven years. Our contractor has completed approximately 27% of the work so far and will continue to work throughout the city in the coming week.

Preventative Maintenance			
Crack Sealing			
Contractor: Superior Sealcoating, Inc			
	<u>Cost</u>	<u>Material</u> (gallons)	<u>Area Covered</u> (sq ft)
Budget	\$75,000	8,000.00	
This week	\$3,839.44	421.50	44,975
Total To Date	\$19,152.16	2,151.00	471,313
Percent Complete	26%	27%	

Micro-Surfacing

Roadways scheduled for micro-surfacing were prepared this week by DPW crews:

- Streets Division prepared Upham Street by cold-planning six areas of the pavement that had extensive rutting and/or potholes;
- Streets Division reconstructed a catch basin on Upham Street;
- Water Supply Division checked gate boxes on Rindge Road, Skyview Drive, Macintosh Lane, Cortland Avenue, and Broad Street to ensure all boxes are to grade and functioning. One gate box needed to be adjusted on Macintosh Lane and the work was completed by Water crews.
- Engineering Division submitted a project funding request to MassDOT to receive \$300,000 in Chapter 90 funds.

The micro-surfacing project will apply two thin 3/8 inch layers of polymer-modified asphalt emulsion and aggregate pavement to seal and smooth out the roadways. This micro-surface extends the life of a roadway for seven to nine years. The following roadways will be scheduled for the micro-surfacing treatment in the end of August.

Micro Surfacing

Item	Length	Area	Cost
Rindge Rd (remainder)	4873'	17,868 sy	\$95,235
Cortland Ave	675'	2,805 sy	\$14,951
MacIntosh Ln	1240'	5,703 sy	\$30,397
Broad St	1183'	5,156 sy	\$27,481
Upham St	1620'	6,160 sy	\$32,833
Skyview Dr	580'	2,014 sy	\$10,735
PATCHING ESTIMATED (SY)		175 sy	\$30,000
POLICE SERVICES ESTIMATED			\$15,000
CRACK SEALING ESTIMATED			\$34,000
ESTIMATED TOTAL			\$290,631

Corrective Maintenance

Pothole patching efforts continued this week with approximately 680 potholes¹ filled at various locations, including the following:

- Alpine Road,
- Pine Street,
- Burnap Street,
- Garnett Street,
- Goodwin Street,
- Pleasant Street,
- Pershing Street,
- Drepanos Drive, and
- Nichols Street.

Driveway aprons were installed at the following locations:

- Causeway Street,
- 546 Fifth Mass Pike, and
- 207 Electric Avenue.

¹ Based on average pothole size of 3.5 inches depth and 1.5 foot wide by 1.5 foot long (volume of 0.66 cubic feet or 0.02 cubic yards)

PARKS & RECREATION



Children enrolled in the Summer Playground Program attended their second summer field trip on Friday August 2 to the FunStuf Party House located on Water Street in Fitchburg. A total of 88 participants attended, supervised by 15 seasonal staff. The children enjoyed hours of active playtime in the indoor bounce park. Thank you to the Fire Department for lending the CRT Bus to shuttle the children.

On July 30, after months of procurement and permitting paperwork, Recreation Director Nate LaRose and DPW Parks foreman Chris DeCaria picked up two female mute swans at Logan Airport and delivered them Coggs Hall Park. Mayor DiNatale and Parks Board Chairman James McGrath were on hand to help release the swans onto Mirror Lake. Unfortunately, one of the swans died only days later, and an investigation is underway to determine the cause.

Concerts on the Common were cancelled last week due to potential rain storms. Friday night movies series, however, continued last week with the movie "Dumbo" bringing in an estimated attendance of 50 residents.

DPW crews continued to install backstop at Goodrich Street Ballfield.

DPW crews continued to work on the new trail on Rollstone Hill alongside volunteers from the Student Conservation crews. Coordination continues with Fitchburg Greenway Committee regarding budgeting and expenditures of the various grant funds.

CEMETERIES



The expansion of the Forest Hill Cemetery proceeded this week with exploratory excavations being performed by DPW to determine the existing ground-water table elevation and the location of an existing culvert. Based on the observed results, DPW Engineering Division is designing an interceptor drain that will lower the water table to provide burials that are dry to at least 6-feet deep. The installation of the new drainage pipe will be performed by DPW Streets Division.

The cemetery crews continued to maintain the grounds by mowing, trimming, cleaning graves and monuments, picking up litter and painting. In addition to routine maintenance and administration tasks, the following were completed:

Interments	3
Up righted monuments.....	0
Uncovered/cleaned flat monuments..	5
Foundation marking for monuments..	2
Catch basin repair	0
Filled sink holes.....	0
Trimmed Trees	0
Trimmed shrubs.....	0
Meeting with Families.....	6
Payments - invoiced/processed.....	1
Family Genealogy	10

WASTE WATER

Construction efforts related to the secondary systems upgrades (SSU) at the east plant continued with primary basin #1 coming off-line for repairs and upgrades. Coordination is on-going with monthly project meetings between city, Wright-Pierce, CDM-Smith, MADEP and Waterline personnel.

Routine maintenance on the plant's equipment continued on the Fournier Presses, settled effluent pump skid, wet well tank drain pump, primary basin, and secondary clarifier sludge collection draft tubes.

Collection System

- Paved 20-foot trench where sewer repair was conducted at #52 Plymouth Street last week.
- Pushed over bank/cleared easement at end of Hardy Passway, so water does not pool over critical manhole.

Raised six buried manholes:

- Sewer manhole at #85 Burma Road;
- Sewer manhole at end of Swan Avenue;
- Sewer manhole at #796 Westminster Street;
- Sewer manhole at #68 Airport Road;
- Sewer manhole at South Street at Romano Avenue;
- Found a buried sewer manhole 8-feet down, off of Causeway Street on easement. Will need to order risers to bring structure to grade.

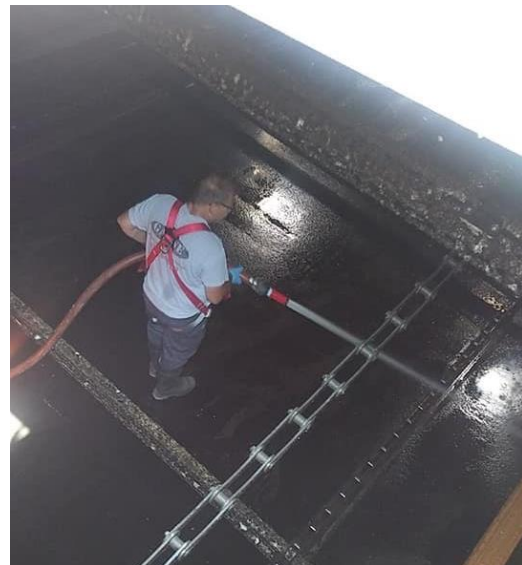


Figure 1: Sr. Wastewater Operator, Chip Gagne, cleaning Primary Basin #1.

STORM WATER



DPW crews rebuilt two catch basins this week:

- Catch basin at Upham and John Fitch was rebuilt to repair a hole in the structure in preparation of the roadway micro-surfacing of Upham Street; and
- Catch basin at Gage and Blossom Streets was rebuilt because it had started to collapse.

Catch basins can appear innocuous from the surface, but are actually large sub-surface structures that are vital to proper storm-water management. The process of rebuilding the catch basin at Gage and Blossom Streets is shown in the sequence of pictures to the left.

DPW General Foreman Craig Ledger is pictured (top) after demolishing the concrete slab and curb to gain access to the sump of the basin. Brick masonry work was required to rebuild the sump structure. The middle picture shows the completed structure with a concrete cone top and casting that will hold the grate. The bottom picture shows the finished product after backfilling, repaving and repouring the sidewalk. DPW Engineering inspected the completed work.

Inspected 55 storm-water outfalls over 3 dry field days to determine illicit connections and infiltration. Found 20 outfalls flowing and sent four to be sampled to determine source. To date 74 out of 277 outfalls have been inspected.

Notice-to-Proceed was issued to Weston & Sampson to initiate the Municipal Vulnerability Preparedness (MVP) plan. As discussed in the July 19 DPW update, the city has received a \$102,000 grant from EOEEA to prepare a climate resiliency and vulnerability plan to deal with increased precipitation events.

DPW staff attended a webinar to learn how to incorporate the Think Blue MA stormwater public education program into the city's outreach efforts.

WATER SUPPLY

Massachusetts DEP performed their biennial Sanitary Survey inspection of the city's water supply and treatment system. Personnel from the Water Supply Division spent two days with DEP inspecting pump, pressure regulating stations, gatehouses, storage tanks, and reservoirs. The DEP representative also interviewed Water Supply Division personnel regarding maintenance of the water system (e.g., hydrant flushing, backflow device testing, cross connection surveys, etc.) and record keeping. DEP will return in the fall to complete inspections/reviews of the water filtration plants. No major issues were noted during the initial two day visit.

The Water Supply Division also submitted a letter and report updating status of items covered in the Administrative Consent Order (ACO). DEP representatives met with staff to review report during interview conducted as part of Sanitary Survey.

Water Treatment This Week

Reservoirs As of 8/2	Northern Reservoirs	Southern Reservoirs	
Fitchburg/Ashby	-0.32 feet	-0.41 feet	Meetinghouse
Scott	Full	-1.24 feet	Mare Meadow
Lovell	-2.62 feet	Full	Bickford
7/25-7/31	Falulah Plant	Regional Plant	Totals
Raw Water Inlet (Gal)	9,270,000	29,496,000	38,766,000
Waste Water (Gal)	1,233,000	3,514,000	4,747,000
Finish Water Treated & Distributed (Gal)	8,037,000	25,982,000	34,019,000

Transfer between reservoirs is currently under way. Fitchburg reservoir is being drained into Lovell, and Mare Meadow is being pumped into Meetinghouse reservoir. Reservoir and spillways areas are being maintained and patrolled.

Fire Hydrants This Week

Total Hydrants	Out of Operation	Hydrants Replaced	Hydrants Repaired	Painted	Flushed
1,632	1	1	1	0	6

- All fire hydrants except for one are operational in the city. The hydrant at Cushing Street by River Front Park is shut off because the water main is damaged.
- Continued flushing/greasing hydrants on the High System this week in the Oakhill Road area towards England Avenue, as well as around Reingold School.

- Hydrant at 47 Maryland Ave was repaired and returned it to service, FFD was notified.
- Hydrant in the DPW yard has been replaced since it was beyond repair.
- Removed and installed new grease port plugs on hydrants that were found to be broken/stripped during flushing at pole# 23 Wallace Road, pole #19 Wallace Road, and 39 Burma Road.
- Inspected hydrant at 320 Fairmount Street that was found to operate hard during flushing. This hydrant works but will need to be removed/replaced soon.
- Excavated a 6-inch water gate on Pratt Street at Beech. Gate was found to be in the closed position. It also had an old electrical line over the top and the gas main next to it. Gate was opened and it was decided to leave it in place - there is a newer 8-inch gate on that main in the intersection of Beech Street.

In addition to routine maintenance and administrative tasks, the following services were completed:

Permits and Inspections	
<u>Type</u>	<u>Number</u>
Emergency DigSafe Markouts	2
DigSafe Markouts	10
Inspections	1
Record Plan Updates	20
Curb Stops Services	3
Located/cleaned gate/curb boxes	25
Final Readings	17
Meter Installs	16
Backflow Preventers Tested	33
Residential Appointments Made	7
Totals	134

ENGINEERING

Asset Management - Roadways

The engineering division continued asset management efforts this week. Pavement conditions for all streets in the city are currently being collected by StreetScan using vehicles mounted with sensors to detect pavement and sidewalk conditions. Currently about 60% of the city's roadways have been scanned.



According to StreetScan, their Fit system uses a combination of two optical devices to capture pavement distresses and assets within the ROW, such as catch basins, pavement markings, traffic signage, etc. Their 3D camera system mounted to the rear of the vehicle detects road distresses and a 360 degree lady-bug camera captures imagery along the ROW which will be used during quality control process as well as potential future secondary asset class extracts.

Asset Management Pavement Condition Rating Contractor: Streetscan, Inc		
	<u>Cost</u>	<u>Miles of Roadway</u>
Budget	\$61,713	245
Total To Date		147
Percent Complete		60%

Asset Management – Water Infrastructure

A meeting was held with our engineering consultant to determine the feasibility of pursuing a grant from MassDEP to fund preparation of Asset Management Plans (AMP) for existing water infrastructure that includes drinking water, wastewater and stormwater systems. The maximum grant award will be \$150,000 or 60% of eligible project cost, whichever is less. The remaining amount would have to include In-Kind Services (20%) and a capital contribution (20%).

Permits and Inspections

DPW inspected the following trenches to assure utility contractors are adequately meeting their obligations to the city to restore the roadway and sidewalks after their utility trenches are completed. Out of the 6 inspections this week, only 3 were satisfactorily completed.

- 26 Gillis Ct (Pass);
- 29 -35 Highland Ave street and sidewalk (not complete);
- 2 trench restoration inspections 1015 Franklin Rd (1 failed);
- Intersection of Wanoosnoc and Vadalua (Pass);
- 430 Wanoosnoc Rd (not complete) Water Supply Division.

Permits and Inspections		
<u>Type</u>	<u>Number</u>	<u>Fees</u>
Dig-Safe requests	2	n/a
Dumpster Permits		
Driveway Permits		
Sign Permits		
Trench Inspections	3	\$ 225.00
Excavation Permits	3	\$1,275.00
Sewer Permits	1	\$2,000.00
Sewer/Drain Inspections		
Parcel Updates		
Planning Reviews		
Totals	9	\$ 3,275.00

Developments and Parcels

DPW performed the following inspections, plan reviews, and parcel data upgrades in support of development throughout the city:

- Performed reconnaissance survey for three parcels on the Twin Cities Rail Trail project;
- Inspected four manholes on Ethier Street prior to acceptance of street;
- Inspected construction of Valley Street to assure it meets city specifications;
- Updated 15 parcels in tax assessor's database.

Street Lights

- Request for additional street light at 72 Pleasant Street was denied – there is an existing light approximately 100-feet from requested location.

ADMINISTRATION

Continued cleaning up requisitions and internal POs and contacting vendors to make sure there are no outstanding FY19 items. Prepared year end encumbrances and accounts. All DPW encumbrances for streets, parks, administration, engineering, water and wastewater have been completed and submitted to Auditor's office.

The following invoices were researched and processed for payment:

Invoicing, Warrants, and Payrolls				
Invoices			Deposits	
<u>Division</u>	<u>Number</u>	<u>Total \$</u>	<u>Number</u>	<u>Total \$</u>
Administration	74	\$ 221,257	*Note 1	\$ 3,275.00
Engineering				
Streets				
Cemeteries	9	\$ 3,915		
Parks				
Recreation	10	\$ 3,188		
Water Supply	40	\$ 101,367	9	\$ 8,448.60
Waste Water	3	\$ 155,053	*Note 2	\$ 25,700.00
Total	136	\$ 484,780	9	\$ 37,423.60

*1 - Engineering Permits

*2 - Septage at East Plant- 302,353 gallons